

All Databases Published Nucleotide Protein Genome Structure OMIM PMC
Journals Books

Search for

Advanced Search

[Limits](#) [Preview/Index](#) [History](#) [Clipboard](#) [Details](#)

Note: Performing your original search, *vascular endothelial growth factor vasodilatory*, in PubMed will retrieve **43 records**.

Display Show Sort By Send to

1: Am J Obstet Gynecol. 2000 Aug;183(2):449-53.

[Full Text](#) [Links](#)

Estrogen augments the vasodilatory effects of vascular endothelial growth factor in the uterine circulation of the rat.

Storment JM, Meyer M, Osol G.

Department of Obstetrics and Gynecology, University of Vermont College of Medicine, Burlington 05405, USA.

OBJECTIVE: Pregnancy augments uterine artery vasodilatation in response to vascular endothelial growth factor, although the underlying mechanism is not known. The aim of this study was to test the hypothesis that estrogen and progesterone, the primary sex steroids of pregnancy, are responsible for this effect through increased endothelial secretion of nitric oxide. **STUDY DESIGN:** Adult female Sprague-Dawley rats underwent oophorectomy at 9 weeks of age with concomitant placement of 21-day timed-release pellets containing either 17beta-estradiol (n = 6) or progesterone (n = 6), or a combination of these (n = 6). Control rats also underwent oophorectomy but did not receive hormone replacement (n = 6). Two to 3 weeks after oophorectomy the rats were killed and the main uterine artery was dissected free, cannulated in an arteriograph, and pressurized to 50 mm Hg. After constriction with phenylephrine, concentration-response curves to vascular endothelial growth factor (0.1-20 nmol/L) were performed to compare arterial sensitivity to and maximal effects of vascular endothelial growth factor among the 4 treatment groups. Vessels were then treated with N omega-nitro-L-arginine (0.24 mmol/L), an inhibitor of nitric oxide synthase, and the maximally effective concentration of vascular endothelial growth factor was reapplied to evaluate the relative contribution of nitric oxide to the overall effect. **RESULTS:** Comparisons of the effective concentration of vascular endothelial growth factor that elicited 50% of the

Related Articles

Gestation increases nitric oxide-mediated vasodilation in rat uterine arteries. [J Obstet Gynecol. 1997](#)

Pregnancy augments uteroplacental vascular endothelial growth factor gene expression and vasodilation effects. [J Obstet Gynecol. 1997](#)

Vasodilation to vascular endothelial growth factor in the uterine artery of the pregnant rat is blunted by low dietary protein intake. [J Obstet Gynecol. 1997](#)

Review Control of uterine and ovarian blood flow throughout the estrous cycle and pregnancy of ewes, sows and mares. [J Reprod Med. 1982](#)

Review [Vascular protection with estrogen. In-vitro and in-vivo effects--mechanisms and clinical application]. [J Obstet Gynecol. 1997](#)

[» See Reviews...](#)

[» See All...](#)

Patient Drug Information

Estrogen (Cenestin®, Enjuvia®, Estrace®, ...) Estrogen is used to treat hot flashes ('hot flashes'; sudden strong feelings of heat and sweating) in women who are experiencing menopause ('change of life', the end of monthly menstrual periods). Some brands of estrogen...

[» Read more...](#)

Progesterone (Prometrium®) Progesterone is used as a part of hormone replacement therapy in women who have passed menopause (the change of life) and have not had a hysterectomy (surgery to remove the uterus). Hormone

maximal dilatation revealed the vessels of the estrogen group to be approximately 10 times more sensitive than the control group (0.4 +/- 0.11 nmol/L vs 4.2 +/- 1.13 nmol/L, respectively; $P < .05$). Responses of vessels from the progesterone and combined groups were intermediate (progesterone, 2.3 +/- 0.66 nmol/L; combined, 1.1 +/- 0.28 nmol/L). Maximal vasodilatory responses were greatest in the groups with treatment including estrogen (estrogen, 61% +/- 3.1%; combined, 54% +/- 3.4%; progesterone, 42% +/- 5.8%, control, 40% +/- 3.5%; $P < .05$). Addition of N omega-nitro-L-arginine inhibited maximal vascular endothelial growth factor-induced dilatation by approximately 40% irrespective of treatment group. CONCLUSION: The presence of estrogen rather than progesterone leads to an enhancement of vascular endothelial growth factor-induced arterial dilatation during pregnancy. This effect results from a proportional increase in endothelial nitric oxide secretion, along with that of another, as yet unidentified vasodilatory substance.

PMID: 10942485 [PubMed - indexed for MEDLINE]

replacement therapy usually in...

» read more ...

Phenylephrine (Sudafed PE®; Actifed® Cold and Allergy (as a combination product containing Chlorpheniramine Maleate and Phenylephrine Hydrochloride)) Phenylephrine is used to relieve nasal discomfort caused by colds, allergies, and hay fever. It is also used to relieve sinus congestion and pressure. Phenylephrine should not be used to treat children younger than 2 years...

» read more ...

Recent Activity

Turn Off Clear

Estrogen augments the vasodilatory effects of vascular endothelial growth factor in the ut...

Vascular endothelial growth factor promotes sensitivity to ultraviolet B-induced cutaneous...

Vascular endothelial growth factor causes pulmonary vasodilation through activation of the...

Display AbstractPlus Show 20 Sort By Send to

[Write to the Help Desk](#)

[NCBI | NLM | NIH](#)

[Department of Health & Human Services](#)

[Privacy Statement](#) | [Freedom of Information Act](#) | [Disclaimer](#)